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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,166	04/01/2004	Junji Ishizaki	106709.01	7386

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EXAMINER
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MARCHESCHI, MICHAEL A

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 07/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/814,166

Applicant(s)

ISHIZAKI ET AL.

Examiner

Michael A. Marcheschi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10 and 13-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10 and 13-31 is/are rejected.
- 7) ☒ Claim(s) 19 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 09/613,427.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The disclosure is also objected to because of the following informalities:

The specification in sections [0014], [0017], [0038], [0176] and [0178] (sections refer to the sections defined in the pre publication) set forth the limitations (1) “each of the...bonded at a sufficiently large area of a surface thereof to the vitrified bond layer” (sections [0014], [0038], [0176] and [0178]) and (2) “each of the...bonded at a sufficiently large area of its surface to the vitrified bond layer” (section [0017]). The examiner is unclear as to what these limitation encompass because (1) what is the sufficiently large area relative to and (2) “sufficiently large area of a surface” does not clearly define how the grains are bonded. In other words, the above limitations are poorly drafted so as to preclude an exact meaning of said limitations. It is strongly suggested that the above limitations be amended and clarified in response to this action.

Appropriate correction is required.

The amendment filed 5/13/05 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

The amended limitation “a sufficiently large area”, as amended in sections [0014], [0017], [0038], [0176] and [0178] (sections refer to the sections defined in the pre publication) is new matter because the specification never defines this limitation before. The original limitation

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(increased area) can not be seen to provide support for the amended limitation (sufficiently large area).

Applicant is required to cancel the new matter in the reply to this Office Action.

Claims 8, 16, 17 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 8 and 28 are indefinite as to the limitation "by portions of said vitrified bond layer which have thickness not smaller than 5% of an average diameter of said abrasive grains" because the examiner is unclear as to what this claim is defining, thus rendering the scope of the claim unclear. The claim is not defined in a clear and concise manner as to enable complete understanding of the subject matter sought. Is this claim defining the thickness of the entire bond layer or a separation distance of the abrasive grains from the support (i.e. amount of abrasive buried in the bond layer). The claim should be reworded in a more clear and concise manner.

Claim 16 is indefinite as to the limitation "for equalizing distances" because this phrase does not define the claimed invention in a clear and concise manner. What are the distances? Do applicants mean that particles protrude from the pattern layer at the same height?

Claim 17 is indefinite as to the entire limitation "sink into said pattern layer by a distance larger than said other of said abrasive grains such so...equalized to each other" because this limitation is not defined in clear and concise manner as to enable complete and definite

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determination and understanding of the scope of the claim. What is the distance and what is meant by “equalized to each other”?

**To comment on all the claims, the claims, in general, are wordy and not defined in clear, concise and exact terms and therefore should be rewritten.**

Claims 1, 2, 6, ~~8~~ and 13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP 10193266 for the same reasons set forth in the previous office action which are incorporated herein by reference.

Claims 3, 4, 5 and 7 are rejected under 35 U.S.C. 103(a) as obvious over JP 10193266 for the same reasons set forth in the previous office action which are incorporated herein by reference.

Claims 1, 2, 6, ~~8~~ and 13 are rejected under 35 U.S.C. 102(a or e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Mitsui et al. for the same reasons set forth in the previous office action which are incorporated herein by reference.

Claims 3, 4, 5 and 7 are rejected under 35 U.S.C. 103(a) as obvious over Mitsui et al. for the same reasons set forth in the previous office action which are incorporated herein by reference.

Claim 1 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,755,720 for the same reasons set forth in the previous office action which are incorporated herein by reference.

**NEW ART REJECTIONS:**

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Claims 14-16 and 18 are rejected under 35 U.S.C. 103(a) as obvious over JP 10193266 in view of Miller et al.

The JP reference teachings are defined in the previous office action.

Miller et al. teach in column 8, lines 39-55 and the claims, a method for making an abrasive article which comprises forming a pattern layer of a bond, sprinkling abrasive grains on the pattern layer and firing to cure the bond. Un bonded abrasives can be removed by inverting the abrasive article after said sprinkling step. Claim 7, lines 6-9 states that after removing excess grains, a film can be applied with pressure to further bury the particles.

Although the primary reference does not disclose the claimed method of applying the abrasive particles, it is the examiners position that one skilled in the art would have found the use of any known application method obvious and the substitution of one known application method for another (for applying abrasive particles) is well within the level of ordinary skill in the art. Since the secondary reference teaches a known application method, its use as the application method according to the primary reference is well within the scope of the skilled artisan and therefore obvious. The figure of the secondary reference suggests a dot pattern. With respect to claim 16 (contact with a flat plat limitation), the secondary reference teaching that a film can be applied with pressure to further bury the particles reads on this limitation. With respect to claim 18, recycling of unbonded abrasive grains is obvious to the skilled artisan for economical and environmental reasons.

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Claims 10, 21-27 and 29-31 are rejected under 35 U.S.C. 103(a) as obvious over JP 10193266 in view of Chesley et al.

Chesley et al. teach in claim 1, that it is well known to attach (bond) a base to a substrate (i.e. supporting layer) which carries an abrasive layer thereon.

With respect to the bonding of a base layer to the supporting layer of the primary reference, although the primary reference fails to mention this, this limitation is obvious to the skilled artisan because, as shown by the secondary reference, this concept is known and therefore within the level of the skilled artisan. The use of a base layer can function as both a reinforcing mechanism for the article and an attachment means for attaching the article to a tool. Any known way to reinforce a supporting substrate and/or provide an attaching mechanism is of routine knowledge, as shown by the secondary reference, and therefore obvious to the skilled artisan. With respect to the other limitations of the claims, these have been addressed in the previous office action, the contents of which are incorporated herein by reference.

Claims 14-16 and 18 are rejected under 35 U.S.C. 103(a) as obvious over Mitsui et al. in view of Miller et al.

The teachings according to Mitsui et al. are defined in the previous office action.

Although the primary reference does not disclose the claimed method of applying the abrasive particles, it is the examiners position that one skilled in the art would have found the use of any known application method obvious and the substitution of one known application method for another (for applying abrasive particles) is well within the level of ordinary skill in the art. Since the secondary reference teaches a known application method, its use as the application

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method according to the primary reference is well within the scope of the skilled artisan and therefore obvious. The figure of the secondary reference suggests a dot pattern. With respect to claim 16 (contact with a flat plat limitation), the secondary reference teaching that a film can be applied with pressure to further bury the particles reads on this limitation. With respect to claim 18, recycling of unbonded abrasive grains is obvious to the skilled artisan for economical and environmental reasons.

Claims 10, 21-27 and 29-31 are rejected under 35 U.S.C. 103(a) as obvious over Mitsui et al. in view of Chesley et al.

With respect to the bonding of a base layer to the supporting layer of the primary reference, although the primary reference fails to mention this, this limitation is obvious to the skilled artisan because, as shown by the secondary reference, this concept is known and therefore within the level of the skilled artisan. The use of a base layer can function as both a reinforcing mechanism for the article and an attachment means for attaching the article to a tool. Any known way to reinforce a supporting substrate and/or provide an attaching mechanism is of routine knowledge, as shown by the secondary reference, and therefore obvious to the skilled artisan. With respect to the other limitations of the claims, these have been addressed in the previous office action, the contents of which are incorporated herein by reference.

Claims 6, 14, 15 and 18 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,755,720.



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Although the conflicting claims are not identical, they are not patentably distinct from each other because the reduction to practice of the patented claims would render obvious the instant claims. All of the claimed limitations, except a **literal** teaching of the limitations of claim 6 and 18 are claimed in the patented claims. However, the broad interpretation of the claims read on a protruding grain absent evidence to the contrary. With respect to claim 18, recycling of unbonded abrasive grains is obvious to the skilled artisan for economical and environmental reasons.

Applicant's arguments filed 5/13/05 have been fully considered but they are not persuasive.

Although new art rejections have been made, the examiner will comment on applicant remarks.

Applicants argue that the JP reference (Kenji) does not disclose a lattice and point to figure 2C to support this and that figures 4A and 4B clearly shown that there is no lattice. This is not persuasive because the examiner is unclear as to how the above Figures of the reference do not show a lattice. As a further comment, applicants appear to compare the above reference figures with figures 1A-1D and figures 5A and 5B of the claimed invention. To the examiner, the figures look the same, so how can it be said the reference figures have no lattice arrangement. With respect to the single layer, applicants admit that the reference clearly discloses this in figure 1A. The figures of the reference can be considered the preferred embodiments and as is well known, **"a reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments"** See *In re Van Marter*, 144 USPQ 421. In

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addition, “a reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. *In re Opprecht* 12 USPQ 2d 1235, 1236 (CAFC 1989); *In re Bode* USPQ 12; *In re Lamberti* 192 USPQ 278; *In re Bozek* 163 USPQ 545, 549 (CCPA 1969); *In re Van Mater* 144 USPQ 421; *In re Jacoby* 135 USPQ 317; *In re LeGrice* 133 USPQ 365; *In re Preda* 159 USPQ 342 (CCPA 1968). Finally, applicants provide no evidence to support the positions taken.

Applicants argue the Mitsui et al. fails to teach or suggest the positioning of the abrasive grains in a lattice with a predetermined pitch between adjacent ones. Although this may not be literally defined, the reference is making a superabrasive layer on a substrate base and as is clear from the reference, the superabrasive layer includes multiple abrasives therein, in a single layer. In view of this and the fact that it is also clear that the abrasives are separated (figures 45-47), how can applicants make an assumption that the separated grain can not be in a lattice arrangement? In addition, applicants provide no evidence to support the positions taken.

Applicants argue the ODP rejection in that claim 1 of the reference fail to teach or suggest the positioning of the abrasive grains in a lattice with a predetermined pitch between adjacent ones. Although this may not be literally defined, the reference is making a superabrasive layer on a base and the broad interpretation of the claim 1 includes a single layer and spacing of abrasives grains which can be in lattice arrangement and applicants have provided no evidence to support the positions taken.

To support the examiners position taken above, reference is directed to the figures which clearly shown this. Although the figures can not be relied upon in a ODP rejection, the figures are being used for the sole purpose of establishing the that the claimed arrangement is

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encompassed by the broad reading of claim 1 of the reference, as the made by the examiners broad interpretation of claim 1 above.

**Claims 19 and 20 are objected to because they depend on a rejected base claim.**

In view of the teachings as set forth above, it is the examiners position that the references reasonably teach or suggest the limitations of the rejected claims.

Evidence of unexpected results must be clear and convincing. *In re Lohr* 137 USPQ 548.

Evidence of unexpected results must be commensurate in scope with the subject matter claimed.

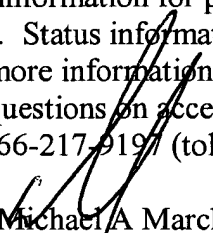
*In re Linder* 173 USPQ 356.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MM  
7/05

  
Michael A Marcheschi  
Primary Examiner  
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